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NEW TOOLS, NEW RECRUITS, FOR THE REPUBLIC OF LETTERS

A Memorandum by Robert C. Binkley, Chairman

There is taking place in the techniques of record and communication a series of changes more revolutionary in their cumulative impact upon culture than the invention of printing. With some of these techniques, notably the series that depends upon electricity and includes the telegraph, telephone, radio, teletype, and television, the world is already familiar. The other series, coming up in the graphic arts, based on the typewriter and photography, and including "near-prints", micro-photography and photo-offset is less widely understood.

These two series of innovations operate, or promise to operate, in contrary directions in their effects upon culture. The electricity series, together with the moving picture and the modern developments in commercial publishing, tend to concentrate the control of culture, and professionalize cultural activities. Telegraph and teletype serve in this way for news, radio for music, and moving pictures for dramatic entertainment. Meanwhile, printing has keyed literature to mass production, technologically by means of fast presses and machine paper making, commercially by means of a symbiosis with advertising, both in the promotion of book sales and the sale of magazine space. The graphic arts series is potentially capable of working the other way, to implement a

more decentralized and less professional culture, a culture of local literature and amateur scholarship.

This possibility is especially important in an era when electric power promises to develop the village at the expense of the metropolis, and shorter working hours offer a prospect of leisure to a population of which an increasing proportion has been exposed to college education.

The activities reorganized in the 15th century by the invention of printing, and now offered another reorganization by innovations in the graphic arts, were those of bookmakers, authors and readers. Photo-offset and photo-gelatin printing are the techniques that now open new prospects in bookmaking, near-print frees the author from some present restraints upon him, and micro-copying opens a new world to readers.

II.

When the printers drove out the copyists in the 15th century, there was some loss as well as gain. If typography has never recaptured the sheer beauty of some of the early printing, it is because those first printers could draw directly upon the rich tradition of the calligraphers' craft. Exactly the same thing took place when printing came to China, four hundred years before it reached the West. The Chinese "incunabula" of the Sung dynasty are unsurpassed for beauty. Artistic typography today tries to draw closer to the art of calligraphy; in some of the finest type fonts, there are cast several slightly different forms of a single letter, mixed at random, so that the faultless regularity of print may

be in some measure compromised. The typographic expert tries to choose a type face that will seem to harmonize with the subject matter or style of a book. Yet it is evident that the calligraphy rather than typography will give the most complete individuality to a book, and the way is now cleared for the calligraphic manuscript book to come back.

Photo-offset is a process which transfers a text with its black or white illustrations photographically to a sheet of zinc or aluminum in such a way that the metal sheet becomes a printing surface. It has received its widest application in advertising work, because as a photographic process, it handles combinations of pictorial and textual material without added expense. It costs no more to photograph a drawing than to photograph the same area of print. The process is used extensively in reprinting old books, and can equally well multiply copies of a manuscript, old or new. Photo-offset renders sharp black and white; the related photo-gelatin or collotype process, which renders a continuous series of tones from light to dark, is also used in reproducing old manuscripts. In Germany, a newly founded "guild" has made a number of beautiful manuscript books and multiplied them by the photo-offset process. Since the photo-offset press and equipment are now available as a kind of office machine, and the handcraft of book-binding is widely practiced, the whole sequence of processes needed in manufacturing manuscript books might be organized without using the equipment or sharing the overhead costs of the present publishing industry.

III.

The reader as well as the bookmaker had his world changed by printing. Books became more accessible. The first effect, in China in the Sung era, as in the West in the 15th century, was to propagate more widely the basic books upon which all intellectual activities are fed--the Chinese classics in the one case, and the Christian and Greco-Roman corpus in the other. It became possible for the moderately wealthy man to possess what previously only princes or great religious establishments could own--a fairly complete collection of the materials for study.

This happy position was destroyed in the 19th century by the flood of books and journals that accompanied specialization in all fields of learning. Readers and scholars were forced to return, as in the days before printing, to the library of an institution. When the institutional library supplanted the individual's collection of books as the normal depository of intellectual working material, it developed an administrative system of great efficiency. It learned to protect books without prohibiting their use, to let the user know quickly by means of a catalogue what books it possessed, and to find them for him on its shelves. The routine and techniques of the research library were developed by that great generation of librarians which is just now passing away. When Henry Adams taught history at Harvard, he had to fight a great battle with the college librarian before he could get reading privileges for his students. Research libraries in the country are now spending about six millions of dollars a year for new acquisitions. The reader who now has all this material placed at his disposal is

still profiting from the increased accessibility given to reading matter by the invention of printing.

And yet the relation of the scholar-reader to the great body of materials the libraries have placed at his disposal is no longer that of the 16th century reader, for the corpus of documentation that had once been the common ground of all learning has lost its significance. The West did not hold to a compact canon of culture, as the Chinese to their classics. The corpus of documentation that was once the common ground of all learning has become a relatively unimportant element in the total bulk of publication. The western scholar's problem is not to get hold of the books that everyone else has read or is reading, but rather to procure materials that hardly anyone else would think of looking at. This is, of course, the natural consequence of the highly specialized organization of intellectual activity in the West. The Chinese would have come to the same result if they had followed the invention of printing with high specialization among scholars. The curious result, so far as Western culture is concerned, is now apparent: the qualities of the printing process that served in the 15th century to make things accessible now begins operating to make them inaccessible. In the 15th century, when all scholars wanted the same things, the printing press served them; in the 20th century, when the number of those who want the same thing has diminished below the publishing point in respect to certain materials (American Indian Language materials are an illustration), the printing press leaves them in the lurch. Moreover,

the great majority of the twenty-four million books that have been published since the invention of printing are now out of print, and inaccessible to the contemporary scholar, working in the library of his own institution. Printing techniques, scholarly activities, and library funds have increased the amount of accessible material at a tremendous rate, but widening interests and the three-centuries' accumulation of out-of-print titles have increased the number of desired but inaccessible books at an even greater rate. Scholarship is now ready to utilize a technique of book production that would return to the cost system of the old copyist, by which a unique copy could be made to order without special expense.

Precisely this prospect is now presented by the techniques of micro-copying. The process promises to reproduce reading matter not only at a cost level well below that prevailing in the book trade, but also under a cost system that will operate like that of the medieval copyists. This system is being tried out in the reproducing of the hearings of the National Recovery Administration and the Agricultural Adjustment Administration. Public access to these hearings is a matter of first importance if the reordering of our economic structure is to proceed intelligently on democratic principles. The hearings constitute a very comprehensive body of information on contemporary business interests and practices. They are well worth digging into. Yet it would cost thousands of dollars to print them. There are a quarter million pages. Since printing is too expensive, the AAA and NRA turned to hectograph and to mimeograph, the so-called "near-print" processes.

Purple-ink hectographed copies of the hearings were offered to libraries at two cents a page. At this rate, the cost to a library of a full file stands at about \$5000. No library purchased a set at that price; nowhere save in the government offices in Washington could a social science worker gain access to a file. Trade Associations and Code authorities with money and special interests to serve provided themselves with copies of those parts of the hearings that particularly concerned them. But the documents did not flow out to become accessible throughout the country.

Then micro-copying was tried. This is a process by which a page of print or typescript is photographically reduced twenty-two diameters in size, being copied on a strip of film 16 mm. wide and 200 feet long. These micro-copies are rendered legible by projection. A machine throws an enlarged image downward on a table, where the reader finds it just as legible as the original page. The cost of operation and materials is so low that 236,000 pages can be distributed for about \$370.00 instead of \$5000--and this rate will apply even if a very small number of libraries should purchase copies. The cost of making a unique copy of a document is about twenty cents per hundred pages, and the cost of making additional copies drops to about twelve cents per hundred pages. These costs are well below normal printed book production costs, no matter how large the edition. Micro-copying thus offers the reader a book production system more elastic than anything he has had since the 15th century; it will respond to the demand for a unique copy, regardless of other market prospects. The scholar in a small town can have

the resources of great metropolitan libraries at his disposal. Micro-copying is a technique that will serve in the 20th century as printing in the 15th, to make reading matter accessible.

IV.

The effect of the printing press upon writers was not felt so quickly as its effect upon readers. The first printed books were not "new books" by new authors; they were editions of the Bible, the classics, and the Fathers. Writers were able to increase their influence greatly by using the press, as Luther and Erasmus discovered, but a good copyright law and administration was necessary before they could make their living from writing. In the 18th century, however, the writers were able to shift their source of income from patrons to publishers. Writing became a profession, and with that the writers found themselves subjected to the mechanics and accountancy of the printing press, which restrained their freedom, perhaps even more than their previous masters, the patrons, had done. For the writers discovered that it was vain to take pains to write anything that would not interest and attract the number of readers or buyers that the printer required in order to absorb and distribute his costs of composition and make-up. This minimum, in commercial publishing today, is two thousand copies. Publishers do not touch a book that does not have a prospective sale of two thousand, and look for their big profits to sales of hundreds of thousands.

The effects of the system have long been operative in literature. The decline of letter writing (despite improved postal service) was

doubtless connected with the tendency to regard "literature" as essentially printed matter addressed to a numerous anonymous, and passive public. Leibniz was the last of the giants of the intellect to spend himself in writing letters rather than books. The effort made today by the Committee of International Intellectual Cooperation to revive letter writing by promoting exchanges of letters among literary notables is stultified by the avowed purpose of publication, which means in effect that the letter writers are not so much communicating with each other as collaborating in the production of another book. Poetry writing as a leisured accomplishment was an ornament to the social intercourse of the Classical world and Renaissance Italy; it survived into the Baroque era, and, in alliance with calligraphy (not printing), it continues to be a social grace in China and Japan, but Western civilization now expects even poetry to fit the Procrustean bed of the publishing industry.

The art of conversation, and its counterpart, the dialogue as a literary form for presenting ideas, have declined since the days of Galileo, while the art of advertising has advanced. Advertising is easily recognizable as the literary genre that most completely corresponds to the technique of the printing press, because it demands above all else a numerous and receptive "public" of readers. By far the greater number of improvements in the graphic arts have been adaptations to the needs of advertisers. And yet, in its development of "direct mail" methods and circular letters, advertising seems to be more emancipated than literature from the printing press. One of the most

curious developments in the graphic arts today is the effort of the advertisers to make printed matter look like typescript, while the authors of books that are not in sufficient demand to warrant publication are demanding a typescript that will look like print.

The effect of printing upon literary form has been indirect, upon literary or scholarly activities direct and decisive. An author can lay his book before reviewers and critics only by persuading some editor that it is marketable; a scholar can make only such contributions to knowledge as can be passed through the publishing process to enter the body of scientific truth. What then of the literary creations that do not promise to command a wide audience, or the specialized contributions to knowledge that can be utilized only by a few experts? Both of these classes of intellectual product suffer one of two fates. Either they remain uncommunicated, and are as if they had never been, or they are carried to their "public" by means of a subsidy. A host of small, author-supported, literary magazines, and direct or indirect subsidies to scholarly books amounting to over a million dollars a year help to allay, but cannot eliminate, the tension between the demands of culture and the exigencies of the publishing industry. If local literature lags behind local activities in music and the arts, and amateur scholarship continues to suffer from the paralysis that overtook it in the 19th century, these conditions can be traced in no small measure to the functioning of the system of book and magazine publishing, with its persistent resistance to issuing anything that will not attract a large number of buyers.

V.

When printing leaves the writer of a work of limited circulation in the lurch, the typewriter comes to his rescue. The typewriter first made its way as a letter-writing machine, especially for business letters. If letter writing as a literary art had survived into the typewriter era, it might have blossomed to the touch of the new technique. The business culture of the 19th century took another road. Even the business letter in the year 1800 was more "literary", less "business-like" than in the year 1900. The typewriter saw business writing stripped bare of everything but the naked bones of communication. More recently, in connection with direct mail advertising, it implemented a return to the letter form. Meanwhile, the scholars and novelists learned to use the typewriter, but only as a step in the preparation of a manuscript for publication. The time came when editors refused to read anything but "typescript". Unconsciously, writers came to associate the typescript form with the failure of a manuscript to please an editor, the printed form with success.

The typewriter soon exhibited an ability to multiply copies by means of carbon paper. Some universities began to make use of the carbon-paper copying power of the typewriter. They would require that a candidate for the doctorate submit two copies of his dissertation, an original typescript and a carbon copy, one for permanent deposit in the university library, the other for lending. Business developed complex systems of records based upon carbon paper multiplication of documents.

Then the multiplying power of the typewriter was extended by two devices--the mimeograph, which squeezes ink through a wax stencil that has been prepared on a typewriter, and the hectograph, which lays typescript letters formed of thick purple dye on a gelatin bed, from which copies can be made as long as the deposit of dye lasts--usually about a hundred copies. The cost of the mimeograph process can be expected to fall sharply as soon as the patents on the wax stencil run out. The hectograph process has been improved by a device which eliminates the need for a gelatin bed. The operating cost of the hectographing process is so low that it does not greatly exceed the cost of making carbon copies, except as the paper costs mount with increasing size of edition.

This memorandum can be used to illustrate the price levels of the near-print processes. It contains 7000 words. To make a single typescript copy of it would cost \$1.60, and this would be the expense normally incurred by one submitting the manuscript to an editor for publication. By adding \$3.00 to this necessary typing charge to cover paper, materials and labor, 50 hectographed copies could be made; 50 mimeographed copies would add \$6.20 to the original typing charge. For an edition of 100, the cost by the hectograph process would be \$5.20, by mimeograph \$8.48. Contrast these costs with the \$_____ that would be necessary to publish the document as a printed pamphlet. An author who uses the hectograph can reach a narrow circle of readers and a few important libraries at a cost to himself not much greater than the cost of typing a copy.

Mimeograph and hectograph, together with photo-offset from typescript copy are the processes which the librarians have come to call "near-print". They have developed wide application for the internal documents of business, government, and education. Instruction manuals and price lists in business, instruction material for classes in high school and college, and any number of reports and memoranda for groups of consultants in government and business are multiplied by the near-print processes. Thirty-five per cent of the documents issued by the Federal Government, to the public, are in near-print form. Some small literary magazines use the process. There are innumerable information services sending out weekly near-printed bulletins or letters (illustrating once more the adaptation of the typewriter and near-print processes to the tradition of letter writing rather than the tradition of bookmaking). Publishers notice a curious consequence of this use of near-print for the internal documents of business. If a book is written on some specialized business subject, it can be sold for twenty dollars a copy in mimeographed form, though it would be unsalable at three dollars a copy in print. The reason, of course, is that the near-print methods have come to be associated with internal, non-public uses, just as printing has come to be associated with a public.

Scholarship has been strangely resistant to these "near-print" methods and products, even though it might well consider that much of its specialized research publishing corresponds in character to the "internal documents" of business rather than to the stock-in-trade of the

publishing industry. The system by which professional research workers draw their livelihood from institutions of learning has had a curious repercussion upon their system of communication, and has resulted in a kind of fetishism in the attitude of the professional scholar toward the printed page. Since contributions to knowledge become effective as contributions only when they are communicated, the amount of research labor is measured by employers at the communicating point. A research scholar must "publish" or be regarded by his university as a drone. Just as tradition protected the use of parchment long after paper had become accessible, so it protects the status of the printed book or article as the only vehicle for scholarly communication, even when other processes than printing would be more appropriate. But the pressure of financial necessity is gradually forcing scholars to accept near-print as the only means of taking up the slack between the requirements of their intellectual organization and those of the book trade.

VI.

These three processes, photo-offset, micro-copying, and near-print, each important when considered by itself, offer an imposing combination when they are considered together. The production of beautiful books, as physical objects, may be turned over more and more to calligraphers, the manuscripts to be multiplied by off-set. The duty of making reading matter accessible to the scholar may be assumed increasingly by the micro-copying process, and near-print may become the normal

channel by which the creative worker, whether in literature or scholarship, can be guaranteed communication with a group that shares his interests, leaving publication in printed form as the channel of communication with a large public. It is evident that these three processes taken together offer to the village a better chance to escape the cultural monopoly of the metropolis, to the amateur in scholarship a more favorable opportunity to cooperate with the professional scholar, than either could expect under the regime of the printing press and publishing industry.

It is not necessary to argue the case for protecting a local culture against metropolitan encroachment, or for vitalizing the cultural environment of the small town. Sinclair Lewis has shown how bare is the ground, how difficult to build upon. And yet girls in towns of 5,000 do learn to play the piano. There is some music, some art, some amateur theatrical enterprise, and a public library. When the CWA Public Works of Art project was set up throughout the country, the result was a surprising revelation of the vigor of local art movements everywhere. As Mr. Edward Bruce told a meeting of regional directors, "Artists who were considered as having only a moderate talent are producing work far beyond and better than they have ever produced before and artists whose talents were absolutely unknown are producing some of the best work on the project". There are great potential forces in local culture. But a rounding out of the small community as an active cell in a living culture requires, in addition to art, music, and theatre, something of creative literature, and

something of productive scholarship. These are precisely the activities which can be implemented by the recent innovations in the graphic arts.

Creative literature and research scholarship can be expected to present somewhat different prospects to local culture. The reorganization of literary activities that would accompany the full use of near-print techniques would involve, first of all, the extinction of the idea that a "writer" is someone apart from the world, or that it is only with a view to becoming one of these creatures that an otherwise normal human being would write stories after leaving college. The public associates amateur literature with immature literature simply because so many of the non-professional literary publications are high school and college magazines, financed by means of browbeating local merchants into buying advertising space. If the principle should come to be accepted that literature of small circulation ought not to be printed, but ought rather to be distributed in near-print form, students who have developed a flair for writing will be more likely to maintain it after graduation. They will not feel that the only alternative before them is to become professional writers or to put away their writing as a man puts away childish things.

True it is that the American liberal arts colleges sometimes fail to arouse in a student a living interest in reading, to say nothing of writing, and that many people graduate without acquiring any genuine intellectual interests of any kind. The colleges are already doing all they can to improve this situation, and every achievement

of higher education in this respect will help to vialize^t local culture in the production of literature.

VII.

In respect of research scholarship, a different situation exists. The distribution of labor among professional scholars has not been arranged in a way that will easily make room for the contributions of amateur scholars. The intellectual world witnessed in the last century the passing of the amateur. He had been on the scene since the time of the invention of printing, when the Church was losing its monopoly of learning. He was usually, though not always, a man of leisure. He collected a library in which he worked diligently. He published a volume on the antiquities of Cornwall or the customs of the Parthians. He engaged in bitter pamphlet wars with his adversaries. At his worst, he was Mr. Casaubon of Middlemarch; at his best, he was Benjamin Franklin. His research was his hobby.

The century of progress thrust this figure into the background and vested in the universities the monopoly that had once lain in the Church. Classical scholarship was carried forward by the professors with tremendous strides, but the layman no longer wrote about the classics and ceased even to quote Latin authors. Natural science moved from triumph to triumph, but the public became a passive spectator, taking on faith conclusions the exact meaning of which it could not follow, just as in literature people would read the popular poets, but never try their hand at a sonnet. Research ceased to be an honored sport and became a profession. The amateur dropped out.

Why did the amateur scholar drop out? It was not because of the development of specialization in scholarship, for the more intensive division of labor should have made it easier rather than more difficult for the leisure time amateur and the full time professional worker to contribute to each other. The reason for his decline was partly material, partly psychological. From the material standpoint, the professionals soon monopolized all the available means of communication. The mushroom growth of specialized learned journals in the later 19th century was barely able to keep up with the professional scholars, and in the 20th century fell behind their needs. The scholarly publishing industry in the United States is a six million dollar enterprise. Naturally, the professionals get the first chance at this fund, and there is nothing left over. The non-professional scholar can enter the charmed circle only by participating in the use of this publication fund. To participate in its use, he must do about the same things the professionals are doing, and in about the same way. This is the material obstacle to the development of amateur scholarship. Near-print techniques offer a way around it.

The psychological obstacle to the development of amateur scholarship is found in the attitude of the professionals toward their craft. They have not taken the trouble to divide the labor in their fields in such a way as to assign tasks to the amateurs and train them for their work. They teach creative scholarship only to aspirants for the academic career. They do not train "laymen" for part-time, avocational, amateur research. To them, a person with intellectual interests but no university job is an object to adult education, not a colleague, (even as

one with a university job and no intellectual interests is a colleague, not an object of adult education). They come habitually to envisage the army of research as a host organized like a Central American Army, with almost all its members above the rank of colonel. They make no arrangements for recruiting, training, and for utilizing a rank and file.

The professional scholars cannot continue indefinitely the indifference to the prospects of amateur scholarship, for they are facing a crisis themselves. The strain that is appearing in their system of recruiting a professional personnel will force them to consider the redistribution of scholarly labor and the reorganization of scholarly communications.

For two generations in America, the recruits brought into the academic profession have been trained in the graduate school to work in the environment of a great university center. In the smaller colleges they work at a disadvantage, and outside the college and university environment, there has been no place for them at all. No serious effort has been made to inspire productive scholarship on the part of the high school teaching personnel. A high school teaching post has not been made a way-station to the university career, except as it provided money for graduate study. That condition was already in existence as the mass movement towards the colleges got under way in the 1920's.

The new hordes of college students throughout the country in the decade following the World War created a demand for more college instruc-

tors. In the presence of this demand, the graduate schools expanded like a machine tool industry, turning out every year more Ph. D's. When the curve of college matriculation began to level off in the depression, it was discovered that the production of apprentice scholars, keyed to an expanding market, went far beyond replacement needs. A turnover of twenty per cent a year in the university teaching faculties would be necessary to give to the new recruits the kind of places they were trained to fill. Subsidized foreign study created for a while an export market, sustained like the export market for goods, by contributions of American capital. This program of foreign study improved and refined the product of the graduate school, but merely postponed the employment crisis, and ultimately accentuated an almost tragic situation. For these young recruits to the army of research could remain in the academic world only by going into the smaller colleges and academies whose meagre libraries gave them little chance of continuing to do the kind of research they had been trained to do. Some observers predicted that the graduate student would go the way of the divinity student. It seems inevitable that this trained personnel will be lost to research scholarship unless the labor of research is redivided so that some of it can be performed away from the university setting, by people who are not university teachers.

This supply of trained scholars need not be wasted; it can be fed into the secondary school system, and then enabled and encouraged to continue, in the secondary school environment, their scholarly interests.

True it is that the heavier teaching schedules of these schools leave less time for reading and research than the university teacher has at his disposal. And yet the long vacations are common to both careers.

Moreover, the internal conditions of secondary education are such that the development of research in local history, local social and economic phenomena, and even local botany and geology are among the great needs of the present. If the teaching staff of the school system could be trained in finding local illustration and application for the broad principles of their respective fields, the students would benefit. If such local research could be reported into the present stream of scientific information, the results would enrich scholarship. And the teaching career in the secondary schools would thereby be made more attractive than it now is to persons of vigorous mind. It is tragic to note that even while some university teachers (thinking perhaps of the mediocrity encountered in their summer school classes) would doubt the possibility of valuable contributions from high school teachers to "research", at the same time some School of Education administrators are worried for fear they may educate their teaching personnel beyond the opportunities of their profession, thus causing discontent. Yet it seems not unreasonable that the teacher in a community should have spent somewhat more time in securing an education than the parents of the school children. As the number of communities increases in which a considerable proportion of the parents have gone through college, it will be reasonable to expect the standards of preparation for teaching in the high schools to be raised toward those now obtaining in the

colleges, as those of the colleges are being raised toward those now obtaining in the universities.

To speak of an unemployment crisis among scholars is not to speak of a prospect that certain individuals, trained to do research, may be without jobs. The situation is not a matter of serious concern. The Ph. D.'s can take their chance with the rest so far as keeping away from the bread line is concerned. The problem of the unemployed scholar, from the standpoint of the development of national culture, is something different. It is presented by the prospect that individuals trained to do research, and willing and able to do it, may be placed in situations in which their capacities are wasted. This kind of crisis exists. Along with it there exists an undeveloped opportunity in popular education, and at the same time there appear innovations in the graphic arts which offer a way out. For micro-copying can bring the resources of the Library of Congress to the small town high school teacher, just as the radio brings the symphony orchestra. Near-print offers the scholar-teacher a vehicle for communication, not only with his pupils and their parents, but also with his colleagues throughout the country. And the kind of interest and ability that would keep the light of scholarship burning in the high school would extend its influence to that element of the community from which the forces of amateur scholarship are to be recruited.

The modification of academic policies necessary to meet this situation are very simple. At the present time, teaching in the graduate schools in preparation for an academic career is aimed at training students to work in universities, teaching subject matter to undergraduates and research technique to graduates, thus maintaining

the continuity of the academic tradition. An alternative course of graduate study would be directed toward broadening the base of research. A graduate student would be taught methods of exploring local history, of gathering, arranging, and preserving local records, and interpreting the results of his local research to school children. He would look forward to discovering in his future place of work, not a group of brilliant graduate students who can be trained to become professors, but a circle of enlightened adults who can be led to do something worthwhile for the learning and culture of their time. An honored place in American education belongs to the graduate school that pioneers in offering training of this kind.

VIII.

What are the fields of scholarship that lie most open to the school teacher trained in local research, or to the amateur? Where is this intellectual vineyard in which the harvest is so great, and the laborers so few? To give it a comprehensive name, including many different things, it could be called the field of local studies. The development and significance of local historical societies is well described in Dr. Julian P. Boyd's article on "State and Local Historical Societies in the United States".* The object of local studies is to utilize the methods of specialized research in the examination of material presented by the immediate environment. Local linguistic studies would deal with word usages, slang and colloquial; local historical studies with the history of a small area; local geography with its

*American Historical Review, XL, No. 1.

description in terms of surface characteristics, flora and fauna, and the modifications introduced by man, whether in the form of building or in the form of cultivation. Local studies in natural science would cover the relation of plant and animal life to the weather (phenology), or to the environment (ecology). A naturalist who happens to be interested in classification (taxonomy) could probably discover a new species of beetle in the vacant lot next door. Local studies would also be those which require long and patient observation. The observation of variable stars, of meteors, and of insect life cycles are scientific tasks that call for an unlimited number of helpers. Photography--now a widespread amateur technique--permits observers to document their findings in natural science, and some social sciences, with a faithfulness otherwise impossible.

Throughout all local studies there runs a double thread: first, that there should result from this activity a vivifying of education and local self-consciousness in the community; and second, that there should result from these studies a record of some kind, duly entered into the records of learning, duly made available to scholars who may wish to use it, and safely preserved for the future.

There are no rubrics of national history that could not also become rubrics of local history, if the information could be dug out. The textbooks tell of the election of 1840, the "log cabin hard cider campaign"; is it not a part of the work of a teacher in a little Ohio town to find out, if possible, and tell the pupils how the town voted in 1840? Does the literature of American history or political science include any

study of a hundred years of voting in any American town? I do not know of one. If railroads influenced American history, they influenced also the history of Mt. Pleasant, Iowa, Tomkinsville, Kentucky, and Lewiston, Virginia, either by coming or by not coming to these places. The influence was something definite, coming at a particular time and place, and in a particular way. The facts are there, challenging the scholar with a wide knowledge of economic history to interpret them. The Domesday Book of America is unwritten, and cannot be written without the co-operation of a host of scholars, who, in separate communities, shall dig out the story of land tenure and the real estate business. The "industrial revolution" is a chapter in the textbook; how is it related to the ruined structure of an old mill near the community picnic ground? Local history problems are often more difficult to solve than problems in general history; it is easy to trace the impact of Darwinism on world culture, but when and where and how did this impact appear in Cleveland, Ohio? There is food in local studies for an intellect as broad as Goethe's; the frontiers of scientific knowledge may be reached here as directly as at Boghas-keui or the headwaters of the Amazon.

That opportunities for local studies have been neglected in America is evidenced by the state of our local archives, described in Dr. A. R. Newsome's article on "Unprinted Public Archives of the Post-Colonial Period and their Availability".* In many states, they have been barbarously neglected. Only one state, Connecticut, has reached in its administration of local archives a standard of which the country can be proud. In most states, the county records have never been inventoried,

*American Historical Review, XXXIX, No. 4

and the preservation of the archives of towns or semi-public bodies
bodies have been left to the play of accident. From Dr. Theodore C.
Blegen's report on "Some Aspects of Historical Work under the New Deal"*
it is evident that much valuable work was done last winter by relief
workers. This winter the historical division of the National Park
Service is making an effort to bring about inventories of public re-
cords throughout the country as relief work under the FERA. , Pennsylvania
has been exceptionally successful in organizing work of this kind, and
the survey of historical materials in Virginia has been ably conducted.
Efforts are being made in many places to develop care of local records;
efforts have the effect of stimulating the interest of the residents
of the community in their own past.

The development of local studies will call for new methods of
work. Genealogy is an example of a field of wasted opportunity.
Genealogical studies represent a tremendous waste of energy. Here
these family historians delve through records and write countless
letters to distant relatives to establish ancestries, and neglect the
chance to collect and organize data for the social sciences. The
family album as a photograph album has been in existence now for four
or five generations; is it not time to begin to examine its portraits
by the thousand for light on human genetics? The automobile, by making
it easier for families to foregather at reunions, prepares the way for
the revival of family history. Left to itself, such a revived family
history will follow the bare tracks of genealogy; guided by enlightened

*Mississippi Valley Historical Review, XXI, No. 1.

scholarship, it may lead to discoveries of value to social science. Who knows, for instance, how far the family has been operating during the depression as an unemployment insurance unit? Do we understand the ecology of the "poor relation" in the history of the American family? Various techniques have been developed, and applied either in work that is fundamentally social-pathological (as in relief work), or by questionnaire methods. Very seldom have the insiders of a group, with a knowledge of the intimate and essential facts, arranged them and fed them into the stream of sociological data. Family history, like local history, can reach to the furthest horizons. What a great cross section of society is personated by the thousand near relatives of the average American, what a vast sector of history by their background!

Other problems suggest themselves. Who is there who has not at some time, in a tramp through the country, come upon some ruined trace of human enterprise---a cellar with a few rotting boards betraying the location of what was once a house in the midst of country that has gone back to nature; or the timbers of a ruined mill; or the rotting structures of an old canal suggest part of a story. Sometimes there will not be left resident in the whole community who will know the story. What do the relics themselves say? Perhaps it may be possible to tell when the trees that made the timber were cut down by using the method of measuring the variations in the widths of the rings and fitting them to the climatic history of the region. The presence of wooden pegs, square iron nails or wire nails, and the marks of the adz, the straight saw or the circular saw on the rotten boards will help to date the structure. How accurate a record of life in the slums of the

large cities, in coal mines, in steel mills, on the farm could be produced by amateurs using cinema films.

Business history offers another opportunity. How little we really know of the dynamics of business management, the reasons for the decisions that came out well or ill. Consider, for instance, a chain drug store that may still be in the hands of its founder. How far did the photographic industry provoke a change in drug store merchandising when it offered cameras and films in place of the raw chemicals used by the earlier photographers? How far did prohibition contribute to the ice-cream and lunch counter features? What have been the relations of the business to the medical profession, to advertising, to the chemical industry? Is not the drug store record one of the most reliable sources of data on the degree in which the birth rate is affected by the use of contraceptives? Accountancy is one of the most rapidly changing and decisive instruments of modern business management, yet our literature on the history of accounting in the 15th century is much richer than our literature on its development in the 19th and 20th centuries. Scientific management has given business various processes by which all actions within the business becomes matters of record. These records are used in determining current policies, and then destroyed; thus impairing for the future the record of the evolution of management. Already much of the material that might have been saved in sample form to illustrate management practices before the NRA codes has been destroyed.

Summerfield Baldwin, who helped in the Pennsylvania archives in-

ventory, writes pertinently of these problems: "What is that branch of sphragistic to be called that deals with metal and rubber stamps? of diplomatic, which deals with blank forms? Are you familiar with any collections of student facsimiles of American chirography? The auxiliary science of 'photographics' is, so far as I know, in its infancy, not to say its embryo."

It is not easily foreseen how far the program of local studies will rest upon the shoulders of scholars with that degree of ability and training which has previously led to university positions, how far it can be allocated to the leisure time of intelligent college-bred men and women, who, because they make no money from their intellectual pursuits, may be deemed amateurs. There will be much shaking of heads in the universities over any expectation of "serious" work from the amateur. And yet, at the very least, the amateur can be taught to refrain from doing harm. He can learn not to disperse a collection of Mazzini letters into a dozen autograph collections, not to burn up old family letters without considering their possible value as historical documents, and not to hold himself indifferent to the preservation of other records--those of his business, or of a public or semi-public body--over which he may exercise some control. He can certainly learn that when he finds an Indian relic, it is a good idea to take note of the place in which he found it, and keep that notation with the artefact. Beyond this, he can probably learn how to arrange and calendar his own family papers, or old business records that may be in the attic, and if properly encouraged, he may report his holdings to an appropriate body, like an historical society or the Business History Society.

The care of the records of contemporary civilization is a task so vast that neither the personnel nor the funds of the institutions of research can shoulder the burden. The professors are not at liberty to decide whether or not they will welcome amateur aid in preserving records for study; the records will be preserved by amateurs, or they will not be preserved at all. Should not, therefore, a simple manual be prepared containing suggestions and instructions for the guidance of amateurs in local history work?

IX.

The Utopian style of writing is a valuable expository device, not because of the element of fantasy that inevitably goes with it, but because it can suggest briefly comprehensive interrelationships. Having recourse to this method, it is not out of place to imagine a tourist stopping in a strange town at a time when all the possibilities of the new graphic arts techniques shall have been as fully exploited as the printing press has been in our day. He may find a bookstore, or in the drug store, a rack of rental books, and national magazines near the stationery counter just as he finds them today. Along with these, there are to be seen two or three shelves of different character, to which the tourist directs his attention, knowing that once in a while a real discovery can be made there. On these shelves are some of the products of local literary and scholarly effort. There are a few near-print copies of some satirical sketches which have just created quite a furor because of the thinly veiled personal allusions; also in near-print are to be seen the usual array of historical works on the

town, two or three biographies, and a diary. Most of the poetry is in near-print, and rather unattractive, but there are a few beautiful leather-bound volumes of illustrated manuscript, done in a strong, modernistic hand, and printed, of course, by photo-offset. This is all that seems to be available on sale, although the tourist knows that there are probably a few erotica kept behind the counter. For the real exploration of the town's resources, he walks down to the public library, where the full file of both local literary magazines and copies of most of the circular letters contributed by scholars in the town to their respective groups of correspondents throughout the country and abroad are kept. In the library, one of these town scholars is hard at work. A film roll with micro-copies of fifty-two 17th century political pamphlets has arrived from the British Museum, and he is coming up every day after work to go through them. He is, perhaps, the country's foremost authority on political propaganda under James I.

This Utopian fantasy is after all nothing but the logic of democracy applied to the intellectual program that was already fully stated by Francis Bacon. It is just as properly a part of an American ideal--and perhaps just as unattainable--as the Utopia portrayed by educational prophets such as Flexner, who would emphasize the height rather than the breadth of the "higher studies" that universities are to promote. The Flexner ideal comes from Germany, which more than any other national culture cut off scholarship from popular roots, and segregated everything that was learned, wissenschaftlich, from everything that was common to the masses. Who will say that this course was well

taken when it is considered how little resistance the tradition of academic freedom could make to a mass movement that had not participated in the enjoyment of that tradition? From the moment that the social sciences undertake to help pilot a democracy, it becomes increasingly important that the people shall have toward science and scholarship and the intellectual ideal, not a doctrinaire respect, but a participant's interest. From Germany also comes the lesson of what things may be possible when the apparatus of cultural centralization is ruthlessly used. When the program for America is laid down and the high strategy of American policies defined, let there be included not only the well-known objectives of a bathroom in every home and a car in every garage; let there be also a scholar in every schoolhouse and a poet in every town.